

April 6, 2000

Mr. Byung Maeng
Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue Southeast
Bellevue, Washington 98008

**RE: ENVIRONMENTAL MEDIA MANAGEMENT PLAN (REVISED FINAL)
ABLE PEST CONTROL SITE
KENMORE, WASHINGTON
EMERGENCY AGREED ORDER No. DE 98TC-N170
FARALLON PN: 602-002**

Dear Mr. Maeng:

Farallon Consulting LLC (Farallon) has prepared this Environmental Media Management Plan (EMMP) in accordance with the Washington State Department of Ecology (Ecology) Dangerous Waste Regulations Chapter 173-303 WAC on behalf of the Potentially Liable Persons (PLPs) for the Able Pest Control Site located in Kenmore, Washington. The EMMP has been prepared to define procedures for selection of the final disposal of soil waste generated from cleanup of the 62nd Avenue Site located at 18115 62nd Avenue Northeast in Kenmore, Washington (herein referred to as the site, Figure 1). Specifically, this EMMP will be attached to the Draft Cleanup Action Plan (CAP) and is Ecology's final determination on procedures for soil designation and disposal connected with remedial actions at the site.

BACKGROUND

Farallon has completed the *Remedial Investigation/Feasibility Study, Able Pest Control Site* dated December 6, 1999 (RI/FS Report) which has been reviewed by Ecology. Ecology has confirmed that the RI/FS and subsequent sampling adequately characterizes the site soils and provides sufficient information for selection of a cleanup alternative to be addressed in the CAP and approved with the final Agreed Order. The RI/FS Report identified the chemicals of concern (herein referred to as the target pesticides) as:

Aldrin
Chlordane
Delta and gamma BHC

DDT

DDD
Dieldrin
Endrin
Endrin Ketone
Heptachlor
Heptachlor epoxide

The media of concern identified in the RI/FS Report are soil and vadose zone water. The Selected Final Cleanup Action presented in the RI/FS Report is excavation and off-site disposal of soil with concentrations of one or more of the target pesticides above the Model Toxics Control Act (MTCA) Chapter 173-340 WAC Method B residential soil cleanup levels using the carcinogenic formula values listed in CLARC II (Ecology, February 1996) (MTCA Method B cleanup levels). The final cleanup action will be conducted in accordance with an Agreed Order with Ecology and the PLPs which is in preparation at this time. A Draft CAP is in preparation by Farallon for the selected cleanup action. This EMMP will be incorporated with the final CAP and final Agreed Order.

SOURCE OF CONTAMINATION

The site was used by the Able Pest Control Company for distribution of pesticides for commercial use. Anecdotal evidence indicates that the concentrations of the target pesticides in the soil at the site may have been the result of discarded or spilled chemicals.

ANALYTICAL DATA

The analytical results of soil samples with concentrations of one or more of the target pesticides above the MTCA Method B cleanup levels collected during the RI/FS Report and the Interim Action Monitoring, prior to and after completion of the RI/FS Report by Farallon, are summarized on the attached Table 1. Table 1 also includes the equivalent concentrations for state toxicity criteria for pesticide concentration in each soil sample. A summary of the analytical results of all soil samples collected at the site, laboratory analytical reports, and sample locations are included in the RI/FS Report.

WASTE DESIGNATION

The RI/FS Report identified concentrations of one or more of the target pesticides above the MTCA Method B cleanup levels in soil samples collected from the surface to a maximum of three feet below ground surface (bgs). The following target pesticides are listed wastes under the Discarded Chemical Products List, as defined in WAC 173-303-9903:

<u>Chemical</u>	<u>Dangerous Waste No.</u>
Aldrin	P004

Chlordane	U036
Dieldrin	P037
Heptachlor	P059

Based on Discarded Chemical Products, WAC 173-303-081, soil waste generated from the cleanup action would be designated a Dangerous Waste (DW). However, Ecology has confirmed that a Contained-In Determination is applicable to a portion of the soil to be excavated from the site. The Contained-In Determination is based on the following:

- Concentrations of one or more of the target pesticides in the soil do not exceed the Dangerous Waste Characteristics levels (WAC 173-303-090); and,
- Concentrations of one or more of the target pesticides in the soil do not exceed the Dangerous Waste Criteria levels (WAC 173-303-100).

Based on these criteria, Ecology, in consultation with the United States Environmental Protection Agency (EPA), has agreed to the following categories of soil which will determine the selection of a disposal facility (Ecology letter dated March 7, 2000). The determination of the soil category for the soil waste is dependent on the analytical result of in-situ soil sample.

Category 1 Soils:

- Concentrations of one or more of the target pesticides are above the cleanup levels based on the Method B residential soil cleanup levels using the carcinogenic formula values listed in CLARC II (Ecology, February 1996);
- Concentrations of dieldrin are equal to or less than 1,300 microgram/kilogram (ug/kg);
- Concentrations of chlordane are equal to or less than 2,600 ug/kg;
- Equivalent concentration for state-only toxicity is equal to or less than 0.01 percent; and,
- Total halogenated organic compounds (HOC) for state-only persistent waste is less than 0.01 percent.

The analytical results of soil samples collected for the Interim Action and RI/FS that meet the criteria of Category 1 Soils are summarized on Table 2.

Category 2 Soils:

- Concentrations of one or more of the target pesticides are above the cleanup levels based on the Method B residential soil cleanup levels using the carcinogenic formula values listed in CLARC II (Ecology, February 1996);
- Concentrations of dieldrin are greater than 1,300 ug/kg but less than 10,000 ug/kg;
- Concentrations of chlordane are greater than 2,600 ug/kg but less than 15,000 ug/kg;
- Equivalent concentration for state-only toxicity is equal to or less than 0.01 percent; and,
- Total HOC for state-only persistent waste is less than 0.01 percent.

The analytical results of soil samples collected for the Interim Action and RI/FS that meet the criteria of Category 2 Soils are summarized on Table 3.

Category 3 Soils:

- Concentrations of one or more of the target pesticides are above the cleanup levels based on the Method B residential soil cleanup levels using the carcinogenic formula values listed in CLARC II (Ecology, February 1996);
- Concentrations of dieldrin are greater than 1,300 ug/kg but less than 10,000 ug/kg;
- Concentrations of chlordane are less than the Toxicity Characteristic Leaching Potential (TCLP) criteria of 30 micrograms/liter (ug/l);
- Equivalent concentration for state-only toxicity is equal to or less than 0.01 percent; and,
- Total HOC for state-only persistent waste is less than 0.01 percent.

The analytical results of soil samples collected for the Interim Action and RI/FS that meet the criteria of Category 3 Soils are summarized on Table 4.

Category 4 Soils:

- Concentrations of dieldrin are greater than 10,000 ug/kg; or,
- Concentrations of chlordane are greater than 15,000 ug/kg and are above the TCLP level of 30 ug/l; or,
- Equivalent concentration for state-only toxicity is greater than 0.01 percent; and,
- Total HOC for state-only persistent waste is equal to or greater than 0.01 percent.

The analytical results of soil samples collected for the Interim Action and RI/FS that meet the criteria of Category 4 Soils are summarized on Table 5.

CONTAINED-IN POLICY

The EPA Contained-In Policy provides that media such as soil is not required to be managed as a hazardous waste if the agency finds that contaminant concentrations do not represent an unacceptable risk to human health and the environment. EPA Region 10 bases the Contained-In Determination on the level of potential risk to human health and the environment associated with contaminant concentrations in the media, as well as potential risks to human health associated with the planned management of the waste in some cases.

Ecology has recognized the Contained-In Policy as discussed in the *Memorandum, Re: Contained-In Policy* dated February 19, 1993 prepared by Mr. Tom Eaton of Ecology (1993 Memorandum). As stated in the 1993 Memorandum, the purpose of the Contained-In Policy is to avoid needless and costly disposal methods where the contaminated soil will be managed in a way that does not represent an unacceptable risk to human health and the environment.

Ecology has determined (Ecology letter March 7, 2000) that the Category 1 Soils do not designate under federal or state characteristics and criteria (WAC 173-303-090 and –100), and are below the LDR treatment standards for contaminated soils. Ecology has determined that the Category 1 Soils no longer contain listed hazardous constituents if the soils are disposed of at a solid waste landfill that meets the requirements under Chapter 173-351 WAC (within Washington State) or RCRA Subtitle D (outside Washington State). Ecology has consulted with EPA regarding this determination.

Ecology has determined (Ecology letter March 7, 2000) that the Category 2 Soils do not designate under federal or state characteristics and criteria (WAC 173-303-090 and –100) but exceed the LDR treatment standards for contaminated soils. Ecology has determined that the concentrations of the target pesticides in the soil are less than the MTCA Method C cleanup levels for industrial soil, have a hazard index that does not exceed 1, and cancer risk calculated with the multiple hazardous substances that does not exceed 1/100,000. Ecology has determined that the Category 2 Soils no longer contain listed hazardous constituents if the soils are disposed of at a RCRA Subtitle C hazardous waste landfill that is constructed with a leachate detection and collection system in the double liner system. Ecology has consulted with EPA regarding all of these determinations.

Ecology has determined that Category 3 Soils meet the same criteria as Category 2 Soils if the TCLP concentrations for chlordane are below 30 ug/l. Category 3 Soils with TCLP concentrations of chlordane below 30 ug/l no longer contain listed hazardous constituents if the soils are disposed of at a RCRA Subtitle C hazardous waste landfill that is constructed with a leachate detection and collection system in the double liner system. Ecology has consulted with EPA regarding all of these determinations. Category 3 Soils with concentrations of TCLP above the TCLP limit will be designated as Category 4 Soils.

CONTINGENCY MANAGEMENT PLAN

The following sections provide a detailed approach to the contingency management of the excavated soils under the Contained-In Policy. The Category 1, 2, and 3 Soils will be managed as a dangerous waste during transportation and disposal. This will eliminate the potential exposure pathways and associated risks to human health and the environment. However, the management plan assumes that the Category 1, 2, and 3 Soils will not be formally designated as a dangerous waste using the Contained-In Policy and will be disposed of at an appropriate landfill.

Category 4 Soils will be designated a Dangerous Waste and will be handled, transported and disposed of in accordance with the restrictions imposed by WAC 173-303.

MANAGEMENT OF WASTE SOIL

This section summarizes the management of the soil to be excavated from the site. Detailed procedures for erosion control, health and safety monitoring and personnel protection equipment, decontamination, sampling and analysis, and detailed construction procedures will be provided in the CAP.

Estimated Volumes of Waste Soil

The results of the RI/FS and site topographic survey have been used to estimate volumes of soil to be excavated from the site. The estimated volumes may vary depending on site conditions encountered during excavation; therefore, volume estimates listed below are approximate:

Category 1 Soils	400 tons
Category 2 Soils	725 tons
Category 3 Soils	25 tons
Category 4 Soils	<u>250 tons</u>
Approximate Total	1,400 tons

On-site Soil Handling and Storage

The excavated soil will be handled and stored in accordance with the specific details to be provided in the CAP. These will include:

- Category 1 Soils will be loaded directly into dump trucks for off-site disposal. The soil loads will be securely covered with tarps during transportation to prevent potential wind dispersion;
- Category 2 Soils will be loaded directly into diapered dump trucks that are lined, and securely covered to prevent potential wind dispersion, and transported off-site by a hauler licensed to transport dangerous/hazardous waste;
- Category 3 Soils will be loaded directly into diapered dump trucks that are lined, and securely covered to prevent potential wind dispersion, and transported off-site by a hauler licensed to transport dangerous/hazardous waste if the analytical results of in-situ soil samples collected prior to excavation are below the TCLP levels. If the analytical results are above the TCLP levels, the Category 3 Soils will be transported in locked drop boxes; and;
- Category 4 Soils will be loaded directly into locked drop boxes and transported off-site by a hauler licensed to transport dangerous/hazardous waste.

Transportation

The Category 1 Soils in dump truck loads will be securely covered during transportation to prevent wind dispersion. The Category 2 Soils and Category 3 Soils with analytical results of in-situ samples below the TCLP levels will be loaded into dump trucks that are lined with a disposal impermeable liner. The liner will line the dump truck bed and fold over the top of the load and will preclude water entering or leaking from each load and will avoid wind dispersion. The liner will be disposed of

with each load and a new liner will be installed in each truck. The Uniform Hazardous Waste Manifest will be used for the transport, with the description of the waste as being "contaminated soils, not regulated by Washington Dangerous Waste Regulations". Copies of signed Manifests will be provided to Ecology within 15 calendar days of disposal.

The Category 4 Soils and Category 3 Soils that fail the TCLP level based on analytical results of in-situ samples will be transported in locked drop box as a dangerous waste in accordance with the requirement of WAC 173-303. Category 4 Soils will be manifested with the RCRA Identification Number, WAH 000 005 421 that was issued by Ecology for the site on June 16, 1998. The RCRA Identification Number will be used on all annual reports, Manifests, and documents that are required by the incineration facility.

Disposal

The following disposal facilities will be used for disposal of the waste soil excavated from the site:

- Category 1 Soils will be disposed of at a landfill that meets the requirements of Chapter 173-351 WAC (within Washington State) and/or a Subtitle D landfill (outside Washington State) as non-dangerous waste;
- Category 2 Soils will be disposed of at a RCRA Subtitle C landfill as a contained-in waste soil. The landfill will be instructed that these soils are not to be used for daily landfill cover;
- Category 3 Soils with the analytical results of in-situ soil samples collected prior to excavation that are below the TCLP levels will be disposed of at a RCRA Subtitle C landfill as a contained-in waste soil. The landfill will be instructed that these soils are not to be used for daily landfill cover. Category 3 Soils with the analytical results of in-situ soil samples collected prior to excavation that are above the TCLP levels will be disposed by incineration; and,
- Category 4 Soils will be disposed of by incineration.

The RCRA Subtitle D landfill selected for disposal of the Category 1 Soils is the Regional Disposal Company Roosevelt Regional Landfill, Permit # --CU 92-14. A copy of the Permits and Certifications for the Roosevelt Regional Landfill dated December 1999 is retained on file at the Farallon office. Farallon is currently evaluating costs associated with alternative Subtitle D landfills. Ecology will be notified if an alternative Subtitle D landfill is selected for disposal of the Category 1 Soils.

The RCRA Subtitle C landfill selected for disposal of the Category 2 and 3 Soils is the Waste Management Industrial Services Subtitle C Landfill located in Arlington, Oregon. A copy of the Arlington Facility Guidebook for this facility is retained on file at the Farallon office. Farallon is currently evaluating costs associated with alternative Subtitle D landfills. Ecology will be notified if an alternative Subtitle C landfill is selected for disposal of the Category 2 and 3 Soils.

The Category 4 Soils will be transported to Onyx Environmental Services Incineration Facility in Texas. A copy of the permitting information for this facility is retained on file at the Farallon office. Farallon is currently evaluating costs associated with alternative incineration facilities. Ecology will

be notified if an alternative incineration facility is selected for disposal of the Category 4 Soils.

CLOSING

Specific construction procedures and staging, sampling and analysis, and documentation requirements will be defined in the CAP to be included with the Agreed Order. Large vegetation and construction debris will be disposed of at an appropriate facility as non-dangerous waste. Farallon trust that this provides sufficient information for your needs. Should you have any questions, feel free to contact the undersigned at (425) 427-0061 at any time. Please verify in writing, at your earliest convenience, that this EMMP is approved by Ecology for use in the final CAP.

Sincerely,

Farallon Consulting LLC

Peter Jewett
Principal Engineering Geologist

Attachments

cc: Ms. Louise Bardy – Washington State Department of Ecology
Mr. William Joyce - Ogden Murphy Wallace, PLLC
Ms. Sylvia Luppert - Reaugh, Fischnaller, Oettinger, Merker & Luppert
Mr. John Wiegenstein – Heller Wiegenstein, PLLC

PJ: jrs/gr